REMARKS:

At the time of the Office Action, claims 1-14 were pending. Claims 1-14 stand rejected. Pursuant to this Amendment, claims 1 and 5 have been amended, and new claims 15-20 have been added. Claims 1-20 remain pending.

Claims 1-7 and 10-14 stand rejected under 35 U.S.C. 102(b) as being anticipated by McGuigan (U.S. Pat. No. 1,208,997). Claims 8 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over McGuigan, and further in view of Rieschick (U.S. Pat. No. 844,750). These rejections are traversed for at least the following reasons.

It is a feature of the present invention to provide an anti-cross threading nut that prevents cross threading engagement of a correspondingly threaded shank member with an inlet opening of the nut. Preferably, the nut is configured to allow its threads to engage the matching threads of the threaded shank member only if the shank member is introduced into the inlet opening of said nut at an entry angle not greater than an acceptable misalignment angle. Preferably, the inlet opening is radiused or chamfered to prevent cross threading engagement of the shank member with the inlet opening. If there is misalignment between the axis of the shank member and the axis of the nut, the threads of the shank member will engage the radiused of chamfered edges defining the inlet opening. The surface of the inlet opening is configured in such a way that contact with the threads of the shank member will inhibit undesirable binding or cross threading contact with the leading and subsequent threads of the shank member as the shank member is connected to the nut.

It is another feature of the present invention to provide an anti-cross threading nut which has not only the anti-cross threading feature but also tactile feedback features that induce noticeable vibrations that alert the operator that he/she is attempting to introduce the shank member into the nut at an off-angle, i.e., an entry angle that is greater than an acceptable misalignment angle. The tactile feedback features preferably define holes or valleys into which the shank member falls, thereby creating vibrations as the shank member is being rotatably connected to the nut so as to alert the operator of the unacceptable misalignment angle.

In reviewing McGuigan and in regards to claim 1, the Examiner is of the opinion that the inlet opening of the nut described therein includes cross-threading engagement

preventing means for preventing cross threading engagement of the shank member with the inlet opening when the shank member is positioned in the inlet opening at an off-angle greater than an acceptable misalignment angle. In addition, in regards to claim 5, the Examiner is of the opinion that the inlet opening of McGuigan includes alternating peaks and valleys, and both of the peaks and valleys are radiused and define a lead in radius to prevent cross threading engagement of the shank member with the inlet opening. As set forth below, it is respectfully argued that McGuigan does not in fact provide such teachings.

As can be observed in Figures 1 and 2 of McGuigan, the nut includes an integral rigid portion 1 that has a blunt edge which bears against the mating object B, through which the bolt C passes (see also, page 1, lines 70-76). According to McGuigan, this integral portion 1 preferably consists of a collar or annular rib whose internal diameter is enough greater than the internally screw-threaded bore 2 in the nut to prevent the collar from bearing on the threads of the bolt (page 1, lines 76-82). The portion 1 of the nut is provided with teeth 1a that bite into the mating structure through which the bolt passes (page 2, lines 45-50). Contrary to the opinion of the Examiner, the blunt end of the nut of McGuigan is not configured to prevent cross threading between the bolt and the nut, nor is the blunt end of the nut of McGuigan adapted to vibrate to alert the operator of an unacceptable alignment angle when the shank member and nut are being connected. In fact, there is no teaching or suggesting in McGuigan that if the bolt was to come into contact with the blunt end of the nut, that the bolt could even be rotatably connected to the nut. The blunt end of the nut would not facilitate the connection between the bolt and the nut. Moreover, the blunt end defining the inlet opening of the nut of McGuigan cannot be said to include a smooth inlet surface having alternating radiused peaks or valleys. The blunt end of McGuigan does include stepped portions, but these cannot be said to be the same as the radiused, smooth lead in surface of the present invention (compare, for example, Figure 2 of McGuigan with Figure 4 of the subject application).

Contrary to McGuigan, the smooth inlet opening of the nut according to the claimed invention is adapted to prevent cross threading between the nut and the shank member when the shank member and the nut are rotatably connected together. The smooth inlet opening enables the rotatable connection between the shank member and the nut. The nut is further

configured to provide vibration if the operator attempts to rotatably connect the shank member and the nut at an undesirable alignment angle.

Accordingly, for at least the forgoing reasons, claims 1 and 5 are allowable. Without agreeing with the Examiner as to what is or is not taught by McGuigan and the other art of record, it is noted that since claims 2-4 and 6-14 depend from one of claims 1 and 5, claims 2-4 and 6-14 are allowable for at least the same reasons applied to claims 1 and 5 as well as for the additional subject matter recited in each.

New claims 15-20 have been added to define further patentable subject matter. More particularly, none of the art of record, taken alone or in combination, teaches or suggests all of the limitations set forth therein.

Reconsideration of the rejected claims, consideration of the new claims, and allowance of all the pending claims is respectfully requested. In the event that there are any remaining issues that can be addressed and expedited by telephone conference, the Examiner is invited to telephone the undersigned at the number indicated below.

Illinois Tool Works Inc.
3600 West Lake Avenue
Glenview, Illinois 60025
Telephone (847) 657-4075
FAX (847) 724-4160

Respectfully submitted,

Paul F. Donovan
Reg. No. 39,962